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BIRDS SEEN DURING THE DARDANELLES CAMPAIGN.

BY CAPTAIN A. W. BOYD, M.A., F.E.S.

During the Dardanelles campaign I kept note of the species of birds seen, and with the help of Messrs. J. L. Bonhote and M. J. Nicoll, of Cairo, and Mr. T. A. Coward, have subsequently been able to determine the species of the majority of those which were new to me; the impossibility of collecting any specimens has, however, made the identification of quite a number entirely out of the question, and this refers particularly to the Warblers. I was present on the Gallipoli Peninsula from May 5th to September 5th and from October 16th to December 27th, 1915, and on a boat anchored off the Cape from September 5th to 13th; on Lemnos from December 28th, 1915, to January 15th, 1916; and on Imbros, July 9th to 13th, 1915. I include in the following notes the birds seen on these two islands.

On our arrival in May, migration was still going on and continued till after the middle of the month, when there was a very noticeable movement of Shrikes; from that time there was little movement till the second week in August, but by the end of that month migration was in full swing: Short-toed Larks and Yellow Wagtails were passing in great numbers; a few Hoopoes and Bee-eaters appeared; and Swallows were present in greatly increased numbers. I was unfortunately absent from the Peninsula during the latter half of September and the first half of

October, and therefore missed the most interesting period of migration, but the autumn migration was still proceeding in the second half of October, and the passage south of hundreds of Storks and the presence of multitudes of White Wagtails attracted everybody's attention.

Winter residents arrived early in November, especially noticeable being Grey Wagtails and Black Redstarts, while Stonechats came first in October; but a cold snap—the last four days of November—caused a quite remarkable influx of species not seen before: Skylarks and Starlings, Robins and Hedge-Sparrows, Woodlarks, Chaffinches, Blackbirds, etc., etc. On December 1st the frost broke, and there was a continual passage all morning of small birds going north-east up the coast—Starlings, Skylarks, Goldfinches, Pipits, and many others.

Many birds continued to breed on the Peninsula, and seemed to be far more disturbed by the troops everywhere than by the guns and shells; I never had the opportunity to look for nests, but a number of summer residents bred there, such as Shrikes, Bee-eaters, etc., and the ordinary resident birds were to be seen to the end.

A great part of the Peninsula at the Cape Helles end is a heathery upland, broken by several nullahs, and there are not many trees except in the centre and on the south side by the water-towers and near the Dardanelles, where the French troops were; naturally I was seldom able to visit that side, and was never there later than the middle of August; if I had been there frequently I should doubtless have been able to add a good many species to the list. On the north-west coast is a shelving cliff where shrubs and trees grow, but there is no beach or mud-flat where waders or sea-birds may be seen; consequently the only sea-birds noticed were off Cape Helles, or passing along the coast.

Of course, the following list only contains birds seen casually, and many birds seen on perhaps one occasion or not at all were probably quite common a short distance away. Considering the fact that all that part of the Peninsula occupied by us was continually under fire for eight months, the number of birds to be seen daily was quite remarkable.

On Imbros in the summer the birds were similar to those

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seen on the Peninsula, but were far less disturbed; on Lemnos also in the winter they seemed to be largely of the same species, but there was a good mud-flat beside Mudros Harbour where waders were to be seen.

The following is a list of the species seen. The nomenclature used is that of Dresser's 'Manual of Palæarctic Birds' (1903):

Missel-Thrush (*Turdus viscivorus*).

From October 19th to 23rd small bunches passed over, flying north and north-east.

Fieldfare (*Turdus pilaris*).

One at the top of the cliff on November 29th during the cold weather.

Blackbird (*Turdus merula*).

A male in the scrub on the cliff-side on November 27th: several on December 1st, and daily to December 5th.

Common Wheatear (*Saxicola œnanthe*).

Very common throughout the summer; seems to nest commonly. Seen on Imbros commonly in July.

Black-throated Wheatear (*Saxicola melanoleuca*).

Common during spring and summer and presumably breeds on the Peninsula; a slight increase during the last few days of August and the first few of September.

Black-eared Wheatear (*Saxicola albicollis*).

One on May 29th and one on August 28th.

Isabelline Wheatear (*Saxicola isabellina*).

Common in May; I think it breeds on the Peninsula.

Stonechat (*Pratincola rubicola*).

First seen on October 24th; a few to be seen throughout November; twice seen on Lemnos at the end of December.

Black Redstart (*Ruticilla titys*).

First seen on November 11th in the "Gully Ravine"; a fine male on November 22nd, and several there throughout November; several about the cliff-side and the ravine throughout December; on Lemnos I saw a few on January 5th, 6th, and 9th.

Redbreast (*Erithacus rubecula*).

First seen on December 1st; odd specimens during the first fortnight of December; two on December 9th, one of which sang.

[On October 12th one came on board a transport near Crete.]

NIGHTINGALE (*Daulias luscinia*).

One singing on May 8th, 9th, and 11th in a wood near Morto Bay (on the south side).

SARDINIAN WARBLER (*Sylvia melanocephala*).

Very common throughout November; I was never in the part of the Peninsula during the summer where these were seen in November, but possibly they were permanent residents.

BLACKCAP (*Sylvia atricapilla*).

One on May 13th by the "Pink Farm."

[DARTFOLD WARBLER (*Melizophilus undatus*).

Birds seen in May and the summer were possibly referable to this species.]

WILLOW-WREN (*Phylloscopus trochilus*—presumably this species).

Several from October 18th to 23rd.

[BONELLI'S WARBLER (*Phylloscopus bonellii*).

A bird singing on May 10th, which I think was of this species; I had heard them sing in Egypt a fortnight before.]

CHIFFCHAFF (*Phylloscopus collybita*).

Possibly one on May 13th; one in the Gully Ravine on November 25th and December 15th; one on Lemnos on January 8th.

OLIVACEOUS WARBLER (*Hypolais pallida*).

One singing on May 11th; I had heard great numbers of this bird in song just before leaving Cairo.

RUFOUS WARBLER (*Aedon galactodes*).

One early in May near Sedd-el-Bahr and one on June 1st in the Krithia Nullah; these seemed to be rather darker rufous than those seen commonly in Egypt during April.

GREY-BACKED WARBLER (*Aedon familiaris*).

A grey-backed "Rufous Warbler" seen on August 20th on the high ground not far from Cape Helles was evidently of this species.

HEDGE-SPARROW (*Accentor modularis*).

First seen on December 3rd, when twenty or more were about the scrub and bushes of holly-oak near the Gully Ravine; many seen daily until December 6th. These birds were so clean and bright that at first I took them to be of some other species of Accentor. They were as tame as those in England, and allowed me to approach within a few feet. I saw no other species of Accentor.

GREAT TITMOUSE (*Parus major*).

Seen in June and August, when they were not uncommon in the trees on the French side; three or four on December 6th in a fir on the north-west side. One on Imbros on July 9th.

SOMBRE TITMOUSE (*Parus lugubris*).

I got an excellent view of three on May 29th in the centre of the Peninsula. They were very tame birds and I saw both male and female well.

BLUE TITMOUSE (*Parus cæruleus*).

One on December 8th on a tree on the cliff-side.

WREN (*Troglodytes parvulus*).

I saw none until November 24th, when there was one in some scrub by the Gully Ravine; I saw odd birds several times during the first fortnight of December in different parts of the Ravine.

WHITE WAGTAIL (*Motacilla alba*).

First seen on August 11th—four birds in the Krithia Nullah. On October 16th there were many hundreds all over the Peninsula, but by November 8th there were comparatively few; there were always a fair number to be seen throughout November and December, although on November 30th (during the cold weather) only about six were seen during a walk from one end of our part of the Peninsula to the other; they increased in numbers again a few days later.

Not uncommon on Lemnos at the end of December and in January—sometimes as many as twenty together.

GREY WAGTAIL (*Motacilla melanope*).

On November 11th there were two in the Gully Ravine, and several were always to be seen there in November and December.

YELLOW WAGTAIL (*Motacilla flava* ? and others).

A small flock on August 19th; common by August 22nd and in large numbers from then until I left the Peninsula on September 5th. Several species were evidently represented; some had white eye-stripes, others pale saffron, and many had yellow eye-stripes; they varied greatly in the amount of yellow in their plumage and in the colour of the head. Most of them were, I think, young birds.

MEADOW PIPIT (*Anthus pratensis*).

Evidently a common nesting species; in large numbers also in November and December. Fairly common on Lemnos in January.

RED-THROATED PIPIT (*Anthus cervinus*).

I saw a number of Pipits which were almost certainly of this species during October and November; I became quite familiar with this bird in Egypt, especially during the spring of 1915, and am fairly confident that I identified these correctly.

[TAWNY PIPIT (*Anthus campestris*).

On August 17th I saw a bird that I took to be of this species, which I saw commonly in Egypt in the spring.]

I saw several other species of Pipits, almost certainly including the Rock Pipit, but was never able to examine them sufficiently closely.

LESSER GREY SHRIKE (*Lanius minor*).

First seen on May 12th; a great increase on the following day and May 14th; none to be seen in June. I think a few bred on the Peninsula, as I saw a few during July and August, and I believe that a number of young Shrikes seen in the centre in July and at the beginning of August were of this species.

There was an increase on August 21st.

RED-BACKED SHRIKE (*Lanius collurio*).

First seen on May 10th; increase on May 13th and 14th, but I saw none after that date. They possibly may breed on the Peninsula in normal times, for I saw them on Imbros on July 9th and 11th.

WOODCHAT SHRIKE (*Lanius auriculatus*).

I saw one on the Peninsula in the middle of May and a couple together on several occasions during June and July. I also saw it on Imbros on July 9th and 11th.

MASKED SHRIKE (*Lanius nubicus*).

Two on June 23rd and one a short time before; this species was to be seen in July and in August, and was not uncommon near the water-towers on the French side.

SPOTTED FLYCATCHER (*Muscicapa grisola*).

Several on May 20th in the centre—the only ones seen. On September 16th I saw one on a hospital ship in Mudros Harbour, Lemnos.

Swallow (*Hirundo rustica*).

Common during the second week of May; passing north on May 18th; few seen during the summer; a fair number passing north on July 18th; an increase on August 20th and many on August 21st.

A few passed a boat anchored off Cape Helles, between September 5th and 12th.

House-Martin (*Chelidon urbica*).

Passing north on May 17th and 19th; one on June 6th. Many at Kastri on Imbros, in July.

Sand-Martin (*Cotile riparia*).

From May 16th to 19th a few passed—several score on the 17th; one going north on July 18th.

Goldfinch (*Carduelis elegans*).

Common on the Peninsula all the time; especially common in November and December; many passed up the coast on December 1st, after the cold weather, and a flock flew north-east on December 2nd.

Common on Imbros, particularly on the more cultivated parts in the north. Several on Lemnos on December 31st and January 8th.

Greenfinch (*Ligurinus chloris*).

Odd birds, on June 6th, in the Krithia Nullah, and July 18th, near Morto Bay—probably not uncommon on that side.

House Sparrow (*Passer domesticus*).

Common; roosted in the Gully Ravine in the winter. Not very common on Imbros in July.

Spanish Sparrow (*Passer hispaniolensis*).

Two in the Krithia Nullah on May 13th; a good many roosted in the Gully Ravine, where I saw them in August, October and November.

Chaffinch (*Fringilla cælebs*).

I first saw them on November 30th, though I was told that several had been seen for a week or so earlier than that. I saw several during the first week of December. On Lemnos on January 6th, 8th, and 9th, I saw a number of small flocks.

Linnet (*Linota cannabina*).

Fairly common in May. Not very common on Imbros in July.

Black-headed Bunting (*Emberiza melanocephala*).

Abundant on the Peninsula during May. One on Imbros on July 9th.

[Cirl Bunting (*Emberiza cirlus*).

On July 9th, on Imbros, I got a rather poor view of a bird which was almost certainly of this species.]

Skylark (*Alauda arvensis*).

Several small flocks on November 28th; hundreds on November 30th, on December 1st, after the cold weather, they were passing up the coast all morning. Common on the ploughland on Lemnos; I saw large numbers there on January 2nd.

Woodlark (*Alauda arborea*).

Seen along the top of the cliff; three on December 3rd, one on the 5th, and four on the 7th.

Crested Lark (*Corydus cristatus*).

The commonest bird on the Peninsula; nested in numbers. I saw a young bird with its parents on May 21st, and on May 25th saw a pair building. Very common on Lemnos and Imbros. They were distinctly tame birds, very much tamer than the migrant Skylarks. They seemed to be remarkably little disturbed by shells; if one burst in the grass or heather where they were, it merely caused them to fly up and utter their call-note, and they soon dropped down again.

Short-toed Lark (*Calandrella brachydactyla*).

With the exception of a bird seen on June 5th, which I think was of this species, I saw none till August 17th; there were large numbers on August 19th on passage along the upland above the cliff. Those I saw were of the ruddy-brown type.

(A small flock I saw on January 2nd on Lemnos were, I think, of this species.)

Starling (*Sturnus vulgaris*).

Small flocks on May 21st and 24th. Several flocks on October 27th; many scores on November 29th along the cliff-top; on November 30th, when the frost was very keen, there were hundreds everywhere on the Peninsula. On December 1st, on the break-up of the frost, many passed up the coast all morning. From December 22nd to 24th there were very many, and I saw one large flock of some thousands going north.

Magpie (*Pica rustica*).

Fairly common on the Peninsula; possibly not quite so common in the winter.

Jackdaw (*Corvus monedula*).

Many still about the ruined fort of Sedd-el-Bahr on May 7th; a flock often about the centre of the Peninsula. On Imbros on July 10th, and very common on Lemnos in flocks with Rooks and Hooded Crows.

Hooded Crow (*Corvus cornix*).

Common on the Peninsula, Lemnos, and Imbros.

In small flocks of about thirty together on Lemnos in January, and also in a flock with Rooks and Jackdaws.

Raven (*Corvus corax*).

Two to be seen throughout the year along the north-west coast, most frequently very early in the morning. Seen on Imbros in July. On Lemnos they were remarkably plentiful in December and January, and I saw between fifteen and twenty flying together; often they walked about in the fields near the troops, and allowed as near approach as do Rooks at home.

Rook (*Corvus frugilegus*).

Two flocks flew across the Peninsula on December 4th, flying north. Fairly common in flocks with Jackdaws on January 6th and 9th on Lemnos.

Swift (*Cypselus apus*).

One in the middle of May and one on July 25th.

Nightjar (*Caprimulgus europæus*).

Seen and heard during May, June, and July on the upland between "Lancashire Landing" and "X Beach." Several about the Gully Ravine at the end of August.

Greek Pied Woodpecker (*Dendrocopus lilfordi*).

Fairly common, especially near the water-towers on the French side throughout the year. I think, judging from the distribution of the two species as given by Dresser, that all I saw were *lilfordi*, and none *leuconotus*.

Roller (*Coracias garrulus*).

Common from May to August, especially on the French side and in the centre; evidently bred.

Bee-eater (*Merops apiaster*).

On July 30th I saw six on the French side near the "Brown

House," and they were not uncommon near the water-towers at the beginning of August (including young birds). Some were passing on August 10th.

HOOPOE (*Upupa epops*).

On August 10th, two or three near the "Pink Farm"; on August 20th, three on the upland near "X Beach."

GREAT SPOTTED CUCKOO (*Coccystes glandarius*).

I saw several frequently in the fields west of "Clapham Junction" during June and on July 5th. All I saw closely were young birds, and had presumably been bred there.

[TAWNY OWL (*Strix stridula*).

I heard what was almost certainly this owl hooting on May 11th and 28th.]

LITTLE OWL (*Athene noctua*).

Not uncommon throughout the year. I saw them on the cliff at Cape Helles, in the centre, and in various places in the Gully Ravine.

GRIFFON VULTURE (*Gyps fulvus*).

One on May 7th, flapping about the cliff at "V Beach," Sedd-el-Bahr, where there had been many casualties at the landing twelve days before. Twice in June I saw odd birds fly over the trenches on the right of the Krithia Nullah; and on October 16th I saw six flying over the Turkish lines west of Krithia.

MARSH-HARRIER (*Circus æruginosus*).

One on December 2nd along the cliff-top.

PALLID HARRIER (*Circus swainsoni*).

A lovely bird flew over the cliff and out to sea on December 5th, carrying something in its talons.

DESERT BUZZARD (*Buteo desertorum*).

On August 3rd I got an excellent view of what was evidently an adult male of this species at rest near Cape Helles; it was exactly similar to a specimen in the Dresser Collection. On Lemnos, in January, I several times saw Buzzards which I think were of this species.

Several times in November I saw Buzzards that may have been this or Common Buzzards on the Peninsula, but could never get a view from really close quarters.

Long-legged Buzzard (*Buteo ferox*).

On May 14th one flew over Krithia; on July 11th I saw one on Imbros. I got to know this bird in Egypt.

Rough-legged Buzzard (*Archibuteo lagopus*).

Almost daily in November several beat up and down the high land on either side of the Gully Ravine; I saw a fine male from above on December 1st, as it flew along the cliff-side, and there were several others about.

[**Sparrow-Hawk** (*Accipiter nisus*).

I think birds I saw in July and December, and on Lemnos in January, were undoubtedly of this species.]

Hobby (*Falco subbuteo*).

Two frequently seen in June, July, and August; they were usually to be seen about some tall trees which sheltered a quartermaster's stores near the Krithia Nullah.

Eleanora's Falcon (*Falco eleanoræ*).

One on August 8th, over the Krithia Nullah, near the Hobbies' trees.

Kestrel (*Falco tinnunculus*).

Very common throughout the year. Seen on Lemnos.

Lesser Kestrel (*Falco cenchris*).

Common on the Peninsula in summer. I got an excellent view of the male on Imbros on July 9th and 11th.

Cormorant (*Phalacrocorax carbo*).

Twice seen flying over the Gully Ravine in August and November. Several in Mudros Harbour, Lemnos, in September, December, and January.

Squacco Heron (*Ardea ralloides*).

On May 19th I saw one in a little marsh on the west of the Krithia Nullah, and again on the next day, when I twice saw it perched in a tree; troops were all round the few acres of marsh it was in, and shells fell there not infrequently, and I did not see it again. I became familiar with this bird near Cairo, where I saw numbers in April.

White Stork (*Ciconia alba*).

A flock of twenty-five or thirty on May 12th and 13th; Mr. J. L. Bonhote tells me that on May 13th he saw many thousands passing slowly north, near Suez, a few of which settled and went on early next day. On May 17th a flock of forty-eight passed north. Large flocks passed south during the second half of October; I saw the greatest numbers at dusk on several occasions.

Grey Goose (*Anser* sp. ?)

On November 29th, during the cold weather, twenty-one flew low across the Peninsula, going north; they varied in the extent of black on the breast, some being black and others quite white. I think some were Grey-lags; some probably White-fronteds.

Sheldrake (*Tadorna cornuta*).

Two flew down the coast on December 2nd, going south-west. I saw two on a lagoon at Imbros on July 10th, and one in the harbour at Lemnos on January 5th.

[Wigeon (*Mareca penelope*).

Eighteen to twenty duck, which looked like Wigeon, flew down the coast during the blizzard on November 28th.]

Red-breasted Merganser (*Mergus serrator*).

One seen in Mudros Harbour, Lemnos, on January 5th and January 10th.

Rock-Dove (*Columba livia*).

On August 3rd I saw one on the French side near the "Brown House." Several in July about a big clump of rocks on Imbros, some four miles from the coast; possibly feral domestic Pigeons, but they were some distance from any dwelling.

Stock-Dove (*Columba œnas*).

One flew north-east, along the cliff-top on November 30th, during the cold weather.

Turtle Dove (*Turtur communis*).

Common throughout the summer from May; one of the commonest birds on the Peninsula.

Chukar Partridge (*Caccabis chucar*).

I saw a small covey of eight on Lemnos in January, and heard that they were at one time quite common there; fifteen which I saw on the cliff-side on the Peninsula in November were almost certainly of this species. This covey, I was told, was to be seen between "Gully Beach" and "Gurkha Bluff" throughout the summer.

Quail (*Coturnix communis*).

A single bird on the cliff-top on November 30th, in the cold weather.

[On June 5th and 7th a large game-bird flew over the trenches; I cannot make any suggestion as to its identity.]

Crane (*Grus* sp. ?).

Two on May 17th, with a flock of Storks, but they were too far away for it to be possible to determine the species.

Stone Curlew (*Œdicnemus scolopax*).

I heard them each evening during May, and saw them on a weedy, stony upland near "X Beach," where they probably were accustomed to breed. On June 21st I saw one in the fields near the "Pink Farm."

Grey Plover (*Squatarola helvetica*).

Two on the mud by Mudros Harbour, Lemnos, on January 3rd.

Kentish Plover (*Ægialitis cantiana*).

I saw a flock on the mud-flat, Lemnos, from January 3rd to 12th; twenty was the greatest number seen.

[**Little Ringed Plover** (*Ægialitis curonica*).

I believe that three I saw on July 10th, on the sand beside a lagoon on Imbros, were of this species; one was a young bird.]

Common Snipe (*Gallinago cælestis*).

One on Lemnos on January 9th. I heard of others, and also of Woodcock, on the Peninsula, but saw none there myself.

Dunlin (*Tringa alpina*).

Three on the mud-flat, Lemnos, on January 3rd, and two or three there till January 12th.

Little Stint (*Tringa minuta*).

Two Stints on the Lemnos mud-flat on January 6th were probably of this species, which I had seen fairly commonly in Egypt.

Redshank (*Totanus calidris*).

One on the Lemnos mud-flat on January 6th.

Common Sandpiper (*Totanus hypoleucus*).

One on August 26th, on the edge of the sea at Gully Beach.

Tern (*Sterna* sp. ?).

Either Common or Arctic Terns were seen several times during the cold weather, always passing up the coast in a north-east direction. First seen on November 27th; several on November 30th and December 1st.

Black-headed Gull (*Larus ridibundus*).

First seen on December 2nd, when three or four flew up the coast in a north-east direction; there were scores in Mudros Harbour in January. During the previous winter I noticed them first on the Nile, at Cairo, about mid-December; on January 17th, 1916, Alexandria Harbour was full of them.

Yellow-legged Herring Gull (*Larus cachinnans*).

A few to be seen off Cape Helles throughout the year; many at Imbros, where I saw a flock of fifty on a lagoon on July 10th; a few in Mudros Harbour, Lemnos, in January.

Lesser Black-backed Gull (*Larus fuscus*).

Odd birds off Cape Helles, September 5th to 12th; a few at Lemnos in January.

Levantine Shearwater (*Puffinus yelkouanus*).

In flocks round Cape Helles—the first birds noticed on arrival and always to be seen afterwards; invariably in flocks, sometimes of a fair size.

Mediterranean Shearwater (*Puffinus kuhli*).

One seen off Cape Helles between September 5th and 12th. I saw it commonly in the Mediterranean.

Eared or Black-necked Grebe (*Podicipes nigricollis*).

Two in Mudros Harbour, Lemnos, on January 6th; I saw them well, and noticed the slightly upcurved bill.

THE MAMMALS OF FLANDERS.

By Captain Philip Gosse, R.A.M.C.

Much has been written and published about the birds seen in the fighting area of Flanders since trench warfare began; but little, if anything, about the mammals, except for occasional references to the plague of Rats in the trenches.

Coming out to Flanders last August with a field ambulance, I found much time on my hands, as the medical work naturally depends largely on the amount of fighting that is going on.

So, with the help of a dozen traps and some skinning appliances, I spent most of my spare time collecting small mammals.

The country, which seems to abound with small animals, particularly Shrews, is low-lying, level, highly-cultivated land, intersected with ditches, many of them having water in them the whole year round, to judge by the rushes and water-weeds.

There are no woods nor coppices, and most of the trees are pollarded willows, many of them hollow.

As far as I know the only two small mammals, besides Bats, of which I was unable to procure specimens, are the Garden Dormouse, *Eliomys quercinus*, and Water-Vole, *Arvicola amphibius*. The former is common in the orchards and gardens, according to the inhabitants, and the latter I have often seen in the river Lys.

On one occasion, a friend tells me, a German shell hit a hollow pear-tree in an orchard, and several *Eliomys quercinus* were picked up afterwards, having evidently been hibernating in the hollow tree.

Lt.-Col. Tweedie also describes how he found one asleep in the thatch of a shed, which woke up sufficiently to bite his finger, and then went to sleep again.

The kind of trap used was mostly the all-wire back-breaking type recommended by the Natural History Museum authorities.

For bait I found ration cheese by far the best. With this one could catch all the five different Shrews, Wood-Mice, and an occasinal Bank-Vole.

The solitary specimen of the Subterranean Vole (*Pitymys subterraneus*) which was procured was also caught with cheese.

For the Voles I tried almonds, raisins, chestnuts, bread, and apple, of which almonds proved the most attractive, but even the Voles seemed to prefer cheese.

Once I caught a Common Shrew (*Sorex araneus*) with bread, and on another occasion a *Crocidura leucodon* was trapped after eating more than half an almond—a surprising diet for one of the Insectivora: but at the time the ground was frozen hard and there was a good deal of snow.

The Moles were caught with the ordinary mole-trap, and are very common.

Hares were fairly plentiful, but I did not see a single Rabbit during all the months in which we were in this part of the country.

The inhabitants told me that there were Hedgehogs in the summer, and a schoolmaster with whom I went to fish one day in some old clay-pits declared he had several times seen an Otter there.

LIST OF MAMMALS CAUGHT CLOSE TO THE TRENCHES IN FLANDERS FROM OCTOBER, 1915, TO FEBRUARY, 1916.

Talpa europæa. Mole.

Very common.

Sorex araneus. Common Shrew.

Very common.

Sorex minutus. Pigmy Shrew.

This, the smallest of all European mammals, some specimens measuring from the tip of snout to end of body not more than 40 mm., was fairly frequently caught in hollow willow-trees and in water-ditches. Always caught with cheese for bait.

Neomys fodiens. Water Shrew.

They are fairly plentiful in certain water-ditches, though they seem to be extremely local, and are fond of large deep ditches with plenty of water in them and sufficient cover, such as long grass and brambles.

They live in holes in the bank, with a kind of platform of mud or earth sloping down to the water's edge, and can generally be caught by placing the trap on this platform.

Some of the specimens I got were of a beautiful black colour all over; others had a warm chestnut-brown patch on the breast in the middle line; while a few had white ear-tufts and a white median line down the belly and extending along the underside of the tail.

Crocidura leucodon.

This very handsome and rare Shrew proved to be comparatively plentiful. They were caught in hollow willow-trees and in banks, but not on flat ground as *Sorex araneus* often is.

Cheese was the only bait that attracted them, except in the case of one that had eaten half an almond by the time the trap went off.

This is a fine Shrew in its winter pelage, and differs from *S. araneus*, amongst other points, in having long hairs (5 mm.) in the tail as well as the close short hairs.

Also it has a definite line of demarcation between the colour of the fur of the upper parts and the belly.

The colour of the upper parts varies from slaty drab to dull russet, while the under parts and inner surface of the limbs are buffy white.

Also the dorsal surfaces of the feet are almost white. The skull and teeth, too, differ in many points.

The ears, though small, stand out conspicuously above the fur, and have two well-developed valves.

Geographical distribution: Central Europe from Belgium to Hungary; south to Italy; not known from the Iberian peninsula.

Crocidura russula. The Garden Shrew.

Very common in gardens and close to farm-buildings.

It differs from *C. leucodon*, amongst other things, in not having a white belly nor a line of demarcation on the sides. One specimen was caught in the fire-trench.

Mustela nivalis. Weasel.

The only specimen I procured was killed during the threshing of a corn-rick.

Evotomys glareolus. Bank-Vole.

These are far from common, possibly owing to the flatness of the country and the amount of standing water. Caught with nuts and with cheese.

Pitymys subterraneus. Subterranean Vole.

Only one specimen procured.

This Vole burrows to a depth of four and five feet, and is therefore difficult to trap.

Apodemus sylvaticus. Wood-Mouse.

Very common; so common, in fact, that in some places I had to catch most of the Wood-Mice before I was able to catch anything else.

Most of them have pure white bellies, but a few have a yellowish median line.

Micromys minutus. Harvest Mouse.

One was caught in the same rick as the Weasel, about a mile behind the trenches.

Epimys rattus. Black Rat.

The Black Rat seems to be pretty common in the farm-buildings, living in company with the Brown Rat. I have no evidence that it has been found in the trenches.

Epimys norvegicus. Brown Rat.

A pest everywhere from the trenches backwards, although possibly it has proved useful as a scavenger.

Mus musculus. House Mouse.

I cannot conclude without tendering my great thanks to Mr. Oldfield Thomas, F.R.S., of the British Museum, for all his help and encouragement to a beginner in the study of small mammals.

A DIARY OF ORNITHOLOGICAL OBSERVATION MADE IN ICELAND DURING JUNE AND JULY, 1912.

BY EDMUND SELOUS.

(Continued from p. 68.)

June 30*th*.—After a little while he came down from the turves, walked a little, still "wittying," then, all at once, became both silent and invisible. It was not till close on 8 p.m. that I saw him again, and at once, became interested, for he was drawing towards the nest, in a stealthy manner, and quite silently. When still at a little distance, he rose and flew over it, alighting about as far off on the other side. A moment or two afterwards, the sitting bird rose, and, flying over her mate, came down a good deal farther away. Not being able to turn the glasses on both birds at once, and fearful of losing the male in his expected approach, I covered the now empty nest with them, and very soon saw a bird creep quietly up, and take its place, upon it. As soon as this was a *fait accompli*, I redirected the glasses to where the previously sitting bird had gone down, when they instantly picked her up again, standing in the same place, and preening herself. The change was accomplished a minute or two after 8. Now I come to think of it, it is, most probably, the male that has been sitting, and the female who has now taken her place on the nest for the night, unless, indeed, there should be a later change, but this is not so probable. In any case, both sexes incubate. Assuming that I have differentiated them (this last time) correctly, the approach of the female to the nest, with the way in which she sunk down upon it, was much more stealthy than that of the male, who also sat higher than his partner is now doing.

On leaving, I walked towards the nest, to see if this bird, too, would fly off it, like the other, or creep away stealthily along the ground; but she also flew, though not before I had got much nearer. I then walked to another Whimbrel's nest—found that day—in which there are but three eggs, leaving another to be laid—the one I have been occupied with has four. When I was yet so far off that I should have thought there was no need for alarm, a bird that I have no doubt was the layer of the eggs began flying about and "witty-wittying" in the most plaintive manner. There was no bird on the nest when I came up to it, and none flew off. No fourth egg had been laid, though I had been out of this bird's way for four or five hours. Before this, however, I had waited for it to go to the nest, which, after some two or three hours, it did do.

On each side of the nest, to mark it, I had made a mound of turves, and, just between these, the bird sank down—at least it disappeared, and that, I suppose, was how it did. It would seem, therefore, that one bird or both—more probably, perhaps, the female alone—covers the eggs for some time before the full number has been laid, and does not repair to the nest only to lay.

I also watched a Golden Plover's nest, at a distance which I should have thought was sufficient, to allow of its being approached by the bird, but it never was, so far as I could ascertain. I remarked, however, that there was always a bird close about me, that seemed to watch me, and uttered, ever and anon, a plaintive "peeng." In the light of my previous experience, I took this to be the male.

July 1*st.*—Started, this morning, up the course of the stream, to see something more of the Eagles, but it only ended in a horrible experience with Mosquitoes, or Flies for those who prefer to call them so—but such Flies! They swarmed now along the banks, which, low and flat where the homestead stands, got higher, as we advanced, till they became, at last, rocky precipices, between which the river, here much compressed, rushed in an impetuous, foaming torrent, making, with the wide-watered shores of the great gloomy lake from which it leapt, almost suddenly, out, as fine a scene, perhaps, as I had looked upon since leaving the Zambesi and its Falls—the sea alone, and always, excepted. At the head of the gorge, where lake and river merge, we dismounted, and, having unloaded the ponies, began to get the things into the boat, and it was here, and whilst doing this, that the plague reached its climax, making a state of things worse than any picture I had formed in my mind, though not unprepared—this being, according to Sigurdsson, the worst place in all Iceland for Mosquitoes—*he* never called them Flies. Be they what they may, the air was darkened about us as they descended in great clouds, and with a rushing sound, upon ourselves and the horses. The latter seemed no longer to have hair upon them—a horrid sight—and Sigurdsson's coat, as he knelt over the luggage, was entirely hidden by a vast crawling mass. I was the same where I could see myself, and everything, as it was taken off the horses—the saddles, especially, being hot from them—was swarmed upon in the same way. As they were disturbed by the packing or transportal of anything, they went up, and then swarmed down again, in great rushes which, for a few moments, partially obscured the sun, then shining brightly. It was as though a fine mezzotint veil had been flung over it, one which moved and glanced, and varied in its density, the effect being very novel and striking, though the discomfort and disagreeable ideas which these hosts excited, as well as the faint, sickly smell—at moments less faint, and more sickly—which emanated from their myriad bodies, prevented one from admiring. We humans had, of course, our mosquito-nets, but the horses, without any protection, kept coughing and choking till we got them into the corrugated iron shed which stands here, for this and other purposes connected with making a halt. We then made haste to get into the boat, and cross, but could not prevent a great multitude from embarking and making the voyage with us, for they did not fly, not liking the water, it seems, but settled upon oars, rowlocks, gunwale, etc., as well as on ourselves and our belongings. How many we shipped I don't know, and, as nothing seems too high an estimate for the "numbers numberless" that we left behind, I had better refrain from making one—but they did "darken the sun."

I did something, whilst Sigurdsson rowed, to lessen the number of these passengers, but they revenged themselves, unpleasantly, in smell and juice, and, before long, baling the boat became a more pressing consideration. At length we got across, not that it took very long, but time is a matter of sensation. Since I understood that Mosquitoes on the other side were not so numerous, it did not occur to me to feel anxious about being left with them. They were not *so* numerous, indeed, but that was all. Where we landed—and difficult enough it was to get the deep-keeled, small boat, that kept filling with water, in amongst the angular, unaccommodating rocks and stones, quite different from sea-rocks—was only a little beyond the eyrie, which is in the face of the line of low cliffs that crowns the steep shores of the lake, and, before we were out, the birds had sailed up, but with so calm, unimpassioned a demeanour as gave me small hopes concerning them. However, we got up the tent and, for three or four hours, kept quiet within it, the Mosquitoes, all the while, swarming in at the doorway, which, to observe, we had to keep open, to an extent which, however minor to what it was on the opposite side, soon made them, and not the birds, the principal objects of interest, and would have done, even though there had been young in the nest, and the parents constantly feeding them. But though we heard the Eagles more than once, they never came to the ledge, and by 6 o'clock I felt pretty sure that there would be nothing to see if I stayed, and, also, that to stay, under such circumstances, would be almost impossible—unhappily for me it was not quite. So the tent was taken down and the boat loaded up again, but what with the annoyance at having to give up seeing what I had so much hoped to see, and the fear of being possibly mistaken in my conclusion, aided by a temporary lull, for some reason, in the exasperating plague, which made me think it might be better, altogether, on the beach, the upshot was that my yearning wishes got the better of my reasoning powers, and I decided, at the last moment, to stay—at first till the following morning, and then, as the Gods made me madder, and madder, till the morning after that.

So up the tent was put again, on the actual shingle, just a step or two beyond the water, but, almost before the boat was out of sight, it became apparent that my hopes, in regard to the Mosquitoes, were fallacious, and after an effort of endurance, which was unfortunately too long, I came to the now fixed conclusion that to stay, under such conditions, was madness, and to get back the only sane thing to do. There might, I thought, be just time to reach the point opposite to where Sigurdsson would now have landed, before he started back with the ponies, but, when I got to the heights above it, the shed, which, unsightly as it was, had before been a refuge, and looked like one, stood now all lonely and comfortless, and I saw that he was gone. I was, by this time, surrounded by a vast halo of Mosquitoes, from which, though my face was netted and my hands gloved, I could not adequately guard my wrists, on which I was bitten over and over again. I carried an umbrella, which, for Mosquitoes in moderation, is a very good thing, for comparatively few come under it, and those that do fly up into its dome, and there settle. So they did now, with a sound like that of hail coming down on it, but their numbers made this a loathsome sight, and their smell, as a consequence of these numbers, was very disagreeable. Also holding it up exposed the wrist, yet I could not prevail on myself to put it down and let the hosts close in on me in all their density. It is not a mere matter of getting bitten or not (though the bites "took" with me badly) but there is something in the very presence of these venomous, whirling swarms, taking the place of all nature, about one, as it were—for they absolutely stop all enjoyment of sight or sound, nay almost the very sense of either, except in relation to their disgusting selves—that acts like a panic, bringing a sort of confusion on the mind, and, with it, a frantic desire to get away, and have relief from this horror. It was with such an almost desperate feeling of necessity that I had been driven from the tent, as though to stay were impossible, and now, under a still more urgent degree of compulsion, I was flying back to it again, as to my only refuge for the next forty hours or so. As I sighted it again from the line of black volcanic precipices that frowned above it, and began to pick my harassed steps down the one descendible gulley amongst them, my feelings were gloomy as their frown. I reached it, and all thought of Eagles or any bird in the world vanished for those forty hours of "damnèd minutes" which I had to pass inside it. I pulled the claps tightly together, and fastened them, drew down the window-blinds, and the task now was, by successive killings of those which clustered on the canvas and made the vast majority, to keep the attacking aerial bands from increasing; and this I was just about able to do, but more and more at the expense of my wrists, especially the right one, which began to look curious, with an occasional face-bite inside the net, for, from time to time, one or more would contrive to get through it, filling me with apprehensions lest this should become more frequent. Night—for there is night here, though its gloom can be seen—brought some cessation of hostilities, and I was able to sleep, with the net on and with an oilskin coat over my face. Otherwise I should have got no sleep at all, as I never could take off the net, except once, for about three minutes. But oh! the length of the next day! Fine every hour—there is a fine spell on now—but "fair is foul" with Mosquitoes.* To go out was impossible without going into more of them and letting more of them in. I got some relief by tying one of my plaids across the tent, from window to window, and pulling it, in a penthouse, over my head, letting it fall behind me, so that, to go down it, they would be leaving light for darkness, which Mosquitoes (creatures opposite to humanity) don't do. A light-proof tent, therefore, ought to make one immune from them. The sun—it was not only fine, but broiling—streamed all through mine, its violent green being possibly an added attraction to the hosts. To sit or lie like this, in thick clothes, under a plaid that I could only just peep out of, and in which I had to keep my hands muffled—and, even with all this, some got down my tall Swedish boots, and so at my legs—was only a few degrees short of suffocation, but, not being quite that, was better than Mosquitoes.

The lessened activity during the next night was a little more marked, I thought, and it was then that I took off my net for that short space, as mentioned, which enabled me to eat a mouthful or two of cold pancake† and drink a little water, but at 8 o'clock next morning signs of a state of things yet more abominable than the day before began to penetrate even through the piles that I slept under, and, sitting up, I found myself in the centre of what seemed a Mosquito-hive. The sunnier side of the tenting they almost hid, "making the green—one *black*," columns were pouring in through the jointures of the closed windows and where the walls of the tent met the ground, whilst the air was full of them and of the small detonations which they made as they hit the top or sides, both from within and without. The heat, too, was now almost unendurable even for the few hours more of it only which I expected. However things had got to the worst, and they shortly mended. First I took a plaid, and exterminated the greater number of those that were settled on the sides and roof, by drawing it along them. I then heaped pebbles on the canvas in contact with the ground or that ought to be so, or otherwise tried to stop up the apertures, however small, all round the sides of the tent; but nothing was quite effectual, the stones least of all, for Mosquitoes still crawled up between them, and still the columns entered by the windows. To check these last, I went out, and threw one of my two plaids over the top of the tent, to hang down on each side, thus covering the windows, and then, in a series of horrible exits—for outside was all one great swarm—I added the other one and the tent flooring, as well as my oilskin gaberdine, thus covering it all up, except a small space, at one end, where the light still shone through. Here the invasion continued, but not, now, in great force, and, by keeping at the back of the now darkened tent, where it was darkest, the attacks, for the most part, ceased, and I sat in comparative comfort till about 11, when Sigurdsson rowed up. I might have thought of this expedient—a sufficiently simple one—at the very first, but, owing to inventive poverty or to its not being clear to me, from the beginning, that the light inside the tent was the attraction, or, at least, the conditioning circumstance, it did not enter my head, though I did hit upon a clumsy, uncomfortable and very inadequate substitute for it, inside instead of out. The lesson to be drawn is to have forethought and do things properly, for with a quite-darkened tent one might exclude Mosquitoes entirely, whilst a small lighted area in the front part of it, only, would allow of observation whilst sitting, oneself, in the dark, and, since the main incentive to entrance would then be absent, or, at any rate, unperceived, only a few would be likely to find their way in. The best plan of all, however, would be to arrange for the absence of Mosquitoes entirely, and this could be done in two ways, either by visiting only those parts of Iceland where they are not found, or by leaving about the middle of June. The official date for them (here at any rate) is the 24th of June, but, unlike the official spring in England, they begin sooner. The Black Flies come a little before them, and are bad enough, but nothing in comparison. They bother—very much—but don't bite, nor are they in such swarms. One may, I suppose, make oneself personally impregnable to both, but only by a great loss of ease and convenience —life is no longer the same—nor is it so easy as one might think. For myself, I was very defective in making arrangements, and only brought one net, without rings to fasten round the hat. That, however, is as they all use them here, and I think, in many ways, it is better than with the rings; one can use the glasses, for instance, and very well too, I find. But the problem is not the face but the hands, and, more still, the wrists, nor is it a completely soluble one, for one cannot do everything (nor anything comfortably) with gloves on, and if they are sewn to the sleeves, which is the one and only way to protect the wrists adequately, then they can never be taken off. Of course if Mosquito-bites—or these inferior Icelandic ones, as I am asked to consider them—don't affect one, then it doesn't matter, or not nearly so much, for nobody, even here, finds them pleasant. Apparently, they don't affect Icelanders—or not the peasantry—but they do me, and my right hand and wrist now is a spectacle, with my left but a few degrees better. There are some hundred and sixty bites on the wrist alone, that I can count, but the greater number of these are double or treble bites—or more—for Mosquitoes, according to Sigurdsson, love to fasten on the already bitten spot, and go on till they have "made a hole," nor (as I would add) do they stop then, if they can help it. To the fact I can certainly testify, but, for the reason of it, want of room would be an adequate one, in my own case, and, I should think, in most others; for, affected or not, nobody here plays the part of Simeon Stylites with Mosquitoes.

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* This is quite true. They cannot do so much on a cold rainy day, which I used consequently to long for. Fine ones, on the contrary, I would have abolished altogether for the time being, had I possessed such a power. However, from the close of the episode in question, I might just as well have had it.

† Pancakes are a staple dish in Iceland, but with that unfortunate qualification. When I mentioned that we ate them hot in England, this roused curiosity only, not enthusiasm!

Thus wretchedly ended my attempt to study the domestic habits of these grand birds, amidst their native wildness and solitude. Either they had abandoned their eggs through fear of me and the tent, in consequence of which the tenant of the healthy one perished, or both of them, instead of one only, as is commonly the case, were this year infertile. I have given my reasons for not regarding the second of these alternatives as excluded, to which I may here add the fact that, in the case of a pair of Nightjars which I watched, without (at that time) the birds having any suspicion of my presence, the eggs were once left uncovered for seven hours, yet, in due course, hatched out. What I most rely on, however, is the statement which was volunteered by the proprietor of the eyrie—who should be the most likely to know—that the eggs of this pair of Eagles were seldom good for two years in succession, for, as will shortly appear, they were good the following year—that is to say one of them was, if we assume that two were laid. The fact spoken to may seem a strange one, but it was spoken to, and the evidence has to be taken. There is also Sigurdsson's assertion that, in Iceland, Eagles are not shy, but always build in the neighbourhood of human habitations, and of this both the pair in question and another, afterwards to be mentioned, are examples. It makes no difference in the inferences that may legitimately be drawn from this, whether it is the habitations that have come to the Eagles or the Eagles to the habitations. The latter, for reasons sufficiently obvious, is, in fact, perfectly possible, but assuming the former to represent the facts, yet why have the birds, if shy, not left, on that account? That is not an easy question to answer; but, on the other hand, there are reasons why, in a country like Iceland, one might expect, even now, to find birds of all sorts less shy than in Europe generally. Sought or unsought, however, the proximity of human beings must react upon the disposition and habits of any animal, and the point here is what these Eagles now are, not how they became what they are. I myself was witness of the fact that the putting up of the tent which, with the general installing, took over an hour and involved the presence of four persons, as well as a boat, did not drive the sitting Eagle away, or even appear to make her anxious, and it is difficult to understand why, this being so, the tent itself, with moss stuck over it, and its one occupant—not more obtrusive, I think, when outside it, than the shepherding lads I have spoken of—should have had a more disquieting effect. Finally, I was so much nearer to the Merlins whilst watching them, with the tent so much more exposed, that—since, according to Darwin, there is no real relation between shyness and size—it is rather a puzzle to say why my presence should have been so much better tolerated in the one case than the other.

For it must not be supposed that because the eggs of an Eagle here are more coveted than those of a Merlin, the latter are therefore let alone. Nothing is let alone. All is "obtained" when and wherever it is obtainable. No doubt the different kinds of property are taken with different degrees of eagerness, but, since taken they are, this should not affect the views and sensations of the various owners, so that one may well ask why a Merlin, in Iceland, should be more tolerant of humanity than a Sea Eagle; and, as a matter of fact, it is the smaller of these two tyrants that keeps farthest away from the grand one. It is violently moved, too, whenever the latter shows himself in the vicinity—even the not very near vicinity—of its nest. Yet the facts were as stated. The birds soon reconciled themselves to the presence of the tent, or, rather, they never seemed to care about it, close as it was, and once I was inside it, they thought no more about me. So great a difference, with the other facts I have adduced, does, I think, raise a legitimate doubt as to whether I was really the cause of the catastrophe. But I do not wish to shirk my responsibilities either. Very likely I was, and this will always be matter of keen regret to me. Let me now, however, speak of what I have done to make amends.

As before stated, before coming out to Iceland I had bought, or, rather, hired this Eagles' eyrie for observational purposes, and, before leaving, I did so again, prospectively, for the following year, on the understanding that the birds should be allowed to hatch their eggs and rear their young, without disturbance from anyone. Accordingly, in the spring of 1913, one, at least, of these potential eggs existed, and became an eaglet, which, having successfully accomplished the days of its nursery, was launched, in due course, upon the air. But this was not all, for I have been happily instrumental in helping, not only this one pair of birds, but every Eagle in Iceland, as well as all the individuals that there inhabit, of some twenty other species, from the first moment of their first birth (for a bird may be said to be born twice), as the following letter which I received from a prominent naturalist of Iceland, whose name and indicia I think it better, for some reasons, not to give, will make clear. Perhaps, as I think I have some reason to congratulate myself on the contents, it would be better still not to give the letter, but it contains, with interesting details, what may still be information to many, and such praise as is accorded me, though I value it, is not of a kind that the world values. Since I have been blamed and—what is more—may have cause to blame myself, in the matter of these Eagles, it is natural and, I think, allowable for me to set forth the *per contra*.

Reykjavik.

2.2.14.

"Dear Sir,

I am very grateful to you for the encouragement you have given to bird-protection in this country. The two articles of yours which were published in . . . were well received, and understood by many of the younger generation. We saw the danger of not protecting the eggs, and of the egg collector, a danger which had been entirely overlooked. Then it was that I, after the advice of our . . . wrote to your Society for Protection of Birds, but got no answer at that time. The letter must have been lost. Later, we got, through Mr. Eirikur Sigurdsson and your aid, valuable information from the Society. Our Parliament sat last summer, and we resolved to get the Bird-Protecting-Act sharpened, and a new one for egg-protecting. We got about four M.P.s, who were entirely convinced, on our side, but the majority had either no opinion or a backward and hostile one. . . .

But at last we got one Act for both, an Act which protects the eggs of about 20 birds, mostly sparrows (finches ?) and waders. Then the eagle was protected (and its eggs) as we could prove how near it was extinction. . . . I thought I had a copy of this Act at home, but, for the moment, I can't find it. But surely you shall get it very soon.

Now you certainly know that we are not very law-abiding people, and the great question is: How can the Act be protected from being violated? We have thought about it, and found some hopeful points in the case. . . .

Very many of those societies have, as some of their objects, to protect birds and animals, and especially to do away with the habit of robbing nests. I hope to be able to have some strengthening influence. . . . Mr. E. Sigurdsson has lent me some of your publications on bird life in Iceland, and we hope to be able to translate and publish parts of them.

Next to those widespread societies are the teachers in Elementary Schools, both in willingness to work on such lines, and in their scope to influence the public. I am there rather fortunate also. . . . From many of them have I got direct promises to influence their pupils in this way.

I am sure you will be glad that your staying here, and the advices you have given us have, in a way, been understood and acted upon; you have started a movement here which, in due time, will entirely change and civilise our opinions towards birds and our wild nature in general. This will not be won all at once, as there are very strong antagonistic forces, but it will be won by and by.

Hoping that you may spend a pleasant summer again observing the birds, whose defender you have been, I remain,

etc."

I hope, then, that those who share my views, on these matters, will think that my going to Iceland has been productive of more good than ill.

July 3rd.—After leaving the Eagles, I rode a short distance with Sigurdsson to see the nest of a Great Northern Diver, but the chief objects of interest for me, in the series of small meres and islets which here make an outlying corner, as it were, of the great lake of Thingvalla, were the Red-necked Phalaropes that everywhere abounded upon them, for it is these birds now that I specially wish to study, though I fear I have left it too long. As we passed the first shallow reedy pool, which was isolated and quite small, I saw several of them rising from the water, and making little darts at one another, in a more pronounced way, I thought, than when I had last seen them acting so, or, at any rate, as pronounced, each time, as in the best former instances. I dismounted, and walked to a low rise of the ground, near by, which made, in itself, a good post for observation, but, as part of the program, the gathering had now taken flight, and since, after waiting a fair time, there was no return, we rode on to the island of the Divers, a quite small one lying only just off the shore, so that the horses were able to cross to it, though they had to wade deeply. In the pleasing little network of shallow pools and bays formed by the irregularities of its shores, many Phalaropes were swimming, and, standing so close to them that the glasses were seldom necessary, I made out the following: (1) It was the smaller and more plainly coloured male bird that most frequently rose from the water, and flew at the larger and handsomer female, and these flights were not only amorous, but satyrian in their character. Of this there were several examples, but the two most marked ones were: (*a*) Where the actual attempt on the part of the male was unmistakeable. (*b*) Where the resistance of the female, which, in the first instance, was of a general, though unmistakeable character, was, in addition to this, marked by a special action, in which the posterior part of the body was dipped, with a quick and strongly curved motion, below the surface of the water, away from the male. (2) These amorous attempts on the part of the male were not always confined to a single female. In one instance especially, two were made, in rapid succession, upon first one and then another of a pair that were not far apart. (3) One female would sometimes fly at another in a bellicose and threatening manner, which the threatened one would similarly assume. The hostile spirit was quite unmistakeable, but nothing that could be called a contest took place whilst I watched. (4) On one occasion a male flew at a female, not amorously, but with a little peck or attempt at one, for I think she just avoided it. Immediately after this, and, to judge by appearances, as a corollary to it, he flew to the shore—represented by my island—where he was very shortly followed by the same female. She alighted just by him, on which he flew to the water again. I then walked to the spot, which was hardly a dozen paces off, to find the female still there, and on her nest, which contained four eggs. This certainly looks like an admonition, given by the male of a mated pair, to the female to attend to her incubatory duties, and one which was followed by her. Since however the duty here is of a grateful kind—as indeed, amongst animals, all duties are—no inference as to power or dominion possessed by the admonisher can rightly be drawn, unless it be the power of reminding. (5) Twice, at least, a female Phalarope on the water rose and flew at a male there, who, rising in consequence, and flying to a trivial distance, after the usual manner, returned her *démarche* by then flying at her—amorously, it appeared to me, but not nearly so wholeheartedly so as when taking the initiative. The action of the female seemed, in these instances, to be of a provocative kind, and so intended.

In the courting or, rather, amorous seeking of two females in succession, by the male Phalarope, as instanced by me, we seem to have an indication of polygamy in this species, and another may possibly be furnished by my finding a second nest very close to the one I have mentioned—within a step or two of it. It is the cock bird, generally, who drives trespassers from what he considers his home territory. His hostility,in such cases, would be directed, in its full strength, against intruding males, but there would be no such intrusion, were he the husband of two contiguously building females, or of any number of such. Certainly the females of these Red-necked Phalaropes seem to be much in excess of the males. For one plain bird, one sees several brightly-coloured. An excess of the hens of any species, whatever the reason, would encourage selection on the part of the males, and this again would foster rivalry, as between the females, with solicitous actions on their part. But can we always be sure that the larger and brighter-coloured bird is the female, and the smaller and plainer one the male? May there not be smaller and plainer specimens of the former, and larger and less plain of the latter? If so, it might be difficult to distinguish the sexes as between two such badly representative individuals. Of the various kinds of intersexual activity which I have here noted there is only one in which the act itself reveals the sex.

(To be continued.)

NOTES AND QUERIES.

GENERAL.

The Itineraries of John Ray the Naturalist.—It would be interesting if the present whereabouts of the originals of The Itineraries of John Ray, the famous Naturalist, could be ascertained. They commence in 1658, and terminate abruptly at the College of Eton in July, 1662. In 1760 George Scott, of Woolston Hall, in Essex, printed lengthy selections from them, and these were reprinted in 1846 by Dr. Edwin Lankester. Scott died in 1780—some years after William Derham, who was his uncle by marriage—and his library, etc., was sold in July, 1782. It is more than likely that at its dispersal, the manuscripts of the Itineraries were disposed of too.—J. H. Gurney, (Keswick Hall, Norfolk).

AVES.

Cuckoo Problems.—In the 'Zoologist' for 1915, p. 317, Mr. J. S. Elliott writes: "Occasionally the egg of the Cuckoo is the only egg found within the nest, but the probability is that the first egg of the foster-parent has already been removed." In the September number of the 'Zoologist' for 1915, p. 355, I stated that there are many instances to which the above remarks cannot apply, since many of the Cuckoos' eggs have been known to have been deposited in incomplete and even deserted nests; in confirmation of which, two friends write that they too have known Cuckoos to lay their eggs in nests before such nests have been finished. One adds that he has known a Meadow Pipit's nest from which three Cuckoos' eggs have been taken, all evidently laid by one individual.—E. P. Butterfield.

Various Bird Notes from Bradford District.—Mr. Ellison, of Steeton, near Keighley, writes me that he found two eggs of the Nightjar laid on the top of a low stone wall last season, which were hatched in this situation. I recorded an instance some years ago in the 'Zoologist' of a Nightjar laying its eggs on the top of a table in a keeper's hut on the top of Barden Moor in Wharfedale. I am glad to report that the Greater Spotted Woodpecker brought off its young last season in Bingley Wood, and two Turtle-Doves were seen by the gamekeepers in May, but it was not ascertained that they bred. Only one instance of the nesting of the Hawfinch in this district was brought to my notice. A few Crossbills were still here, or near here, so late as the last week in February. I saw a Little Auk in February last which had flown against the telegraph wire and killed itself, and a Goldfinch was seen here by one of my sons. I am quite certain I saw Coues's Redpoll (*Cannabina exilipes*) feeding on the seeds of Spiræa in the wood near here in October. It was certainly not a Mealy Redpoll, its rump being much too purely white. It suffered me to approach within a very few feet before it flew away. This genus is passionately fond of the seeds of Spiræa. I have seen a good many Mealy Redpolls at very irregular periods about here, but their rumps are streaked, not white.—E. P. BUTTERFIELD (Wilsden).

Food of the Black-Headed Gull.—In the 'Zoologist' for 1907, p. 387, I recorded the behaviour of the Black-Headed Gulls on the moors in Upper Wharfedale, from which I inferred that they were trying to take the eggs of the Lapwing, although I had no direct testimony to this effect. Whenever the Gulls flew near the nests of the Lapwings, they were invariably driven off, much as I have seen Cuckoos driven when in the neighbourhood of the nests of Meadow Pipits, only to fly to a comparatively short distance, and, quickly returning, to be repulsed again. A few days ago I had a letter from a friend, who states that this species is "an *inveterate* (perhaps he is wrong here) egg-robber. I noted one last season take the eggs of the Lapwing, as well as those of the Redshank." I quite believe this Gull is changing its habits, and has been for some years.—E. P. BUTTERFIELD.

Abnormal Nesting of the Wren.—Referring to the 'Zoologist' of 1914, p. 433, and 1915, p. 35, I found two similar nests of the Wren last season near here, both built right inside stone bridges, in situations similar to such as are usually selected by Titmice, and without any roofs whatever; and was shown another built in a wall surrounding a reservoir near Bingley. I found "cock nests" within a few yards of the former two nests, but these were not used except for sleeping purposes at night. Perhaps such nests as those described above are not as scarce as one would suppose. The difficulty of finding them may to some extent account for their apparent scarcity. Amongst the curious traits in the economy of this species is the habit of occasionally appropriating the nests of other species—two of such appropriated nests I have met with, viz., that of a Whitethroat and that of a Garden-Warbler or a Blackcap.—E. P. BUTTERFIELD.

Observations on the Whimbrel (Numenius phæopus).—The habits of the Whimbrel differ rather considerably during the two periods that it is met with on the mud-flats of the East Coast. In the autumn, small and rather wary flocks of immature birds are mostly seen; but in the spring, when they are travelling north to the breeding-grounds, single birds and much smaller parties are frequently found about the "flats." At this latter season they are more easily approached. Thus, when I first came across the Whimbrel on a bright May morning, at low water, when the whole of the tidal broad of Breydon (Norfolk) was a vast expanse of mud, they were scattered about singly and in twos and threes as is their wont. As the flood-tide made, they got together more, and still later were met with in flocks of from twelve to twenty individuals. When the mud was beginning to cover up fast, the Whimbrel were among the first flight of waders to leave Breydon. They mounted high in the air, and when they had circled over their late feeding grounds once or twice, departed in an irregular flock for the marshes. Several hours later, when the tide ebbed, exactly the reverse happened, the birds coming back in flocks and then scattering themselves further afield in smaller parties. The Whimbrel moves about with a very sedate step, lifting its feet well as it walks. It is most graceful in all its movements, rarely presenting an ungainly appearance. The body is nicely balanced, and the head proudly poised on a neck that is constantly being lengthened and shortened. When the bird is feeding, the head is moved from side to side as it looks right and left. The mud is pecked very frequently, sometimes at every step, but sometimes only once in about six yards or so. I suppose this is according to the abundance of the food or the appetite of the bird. The curved beak necessitates the head being turned eye towards the ground in order to reach food from under obstacles. A large morsel requires much shaking in terrier fashion before it can be satisfactorily mastered and swallowed. This bird will often stop feeding and stand motionless for several minutes with one leg raised. Then it will violently shake itself several times, and, after a few refractory feathers have been coaxed into place, commence feeding again with what is undoubtedly renewed vigour. Sometimes it takes a short, sharp run, and then pauses with neck drawn in and one foot raised, the wings drooping below the tail. This is a position of extreme alertness. In this case, I suppose, some fortunate little crustacean, spotted by the wader at a distance of several yards, has managed to make its escape just in time. As with other birds, I have seen this species attempt to swallow pieces of food much too large for it, and after wasting much time, finally give up the attempt. I often saw a bird shaking large pieces of weed; but whether the intention was to dislodge lurking crabs, etc., or to bite off little tender pieces of the weed itself, I cannot say. Perhaps it was for both reasons. When feeding, the Whimbrel pursues a zigzag course. When a small "drain" or gutter is reached, it runs down one side and up the other—not flying across, although, if the sides are steep, the wings are used to assist in mounting the opposite side. Perhaps on reaching the bottom the bird may change its course, and wade along the little creek, feeding as it goes. Or, in the course of its wanderings, a little pool may be discovered to be full of food. Then, standing thigh-deep in the slush, with both legs nearly straight and close together, it will get to work with many quick and dexterous thrusts of its long bill. The Whimbrel is very easily disturbed. The harsh croak of a Heron is sufficient to unnerve it. Up comes the neck, the tail is spread, and the bird starts to run, opening its wings at the same time, ready to take flight at a second's notice. More often than not, however, it is a false alarm; the wings are closed and feeding resumed. Like most waders, the Whimbrel, perhaps conscious of its own weakness where birds of another class are concerned, seems possessed of very little courage. It seems to especially dislike the marauding "Grey Gulls," often taking flight when one draws near. I have also seen a Whimbrel flee in haste before a Rook. It is usually a suspicious bird when feeding. If the presence of an enemy is suspected, but not absolutely ascertained, the bird glances over its shoulder and runs away for some distance without a probe; if the danger is not considered immediate it will feed away from the spot without exhibiting undue anxiety. When flushed at close quarters, the wings are heard to make a loud, swishing noise—almost as great as that produced by a Duck. When disturbed it will sometimes fly away without demonstration, but often the shrill call is uttered when it has gone about six yards, and then, after a pause, it fairly shrieks out again as it hurries away to a distant part of the flats. The flight is rapid and straight. The neck is drawn back and the bill held out in front with the point slightly inclined to the ground. The legs are stretched out to their fullest extent, and it seems that they are not held parallel, but that the feet nearly touch. The white rump is conspicuous in flight. When alighting, the Whimbrel sails for a few yards with wings extended and legs dropped down. Then, with wings raised above the back—showing the lighter undersides—and head thrown back, the legs are pushed forward and tenderly touch the ground, a movement full of lightness and grace. The wings are not folded instantly, but after a slight pause. Feeding may be commenced the very next moment.

F. N. Chasen.

Odd Eyes, etc., in Pigeons.—As an old pigeon-fancier of many years' standing, and a regular reader of the 'Zoologist,' I should like to mention that the odd eyes in certain varieties of Pigeons, viz. Jacobins, Baldheads, and Beards, are of very frequent occurrence. All these varieties should be "pearl"-eyed; but nearly every breeder has had the annoyance of finding an otherwise certain Challenge Cup winner, with just this one fault, a "bull" "eye"—that is, a black or brown eye—on the one side and the beautiful pearl-eye, so necessary for the show bench, on the other, or "bull" eyes on both sides. One freak of one-sidedness which I noted many years ago, fully twenty, must be exceptional, and perhaps worth mentioning—that of a Turbit Pigeon, with one wing marked a clear blue, with deep black, well-cut bars, the other wing marked as a blue chequer, of a very dark even chequering; this bird was bred by Mr. T. Stretch, Ormskirk.—W. H. Parkin (Studholme, Shipley).

PISCES.

Fox-Shark in Malta.—On March 1st a Fox-Shark (*Alopecias vulpes*) became entangled in the Tunny nets at the entrance of St. Paul's Bay. The fish excited general curiosity, and though it has already been reported amongst our fishes by the late Professor Gulia, who states it to be rare, to all fishermen and fishmongers who have seen this specimen it seems to be a quite new occurrence. Along the Sicilian coast, where it is known as "Pisci surciu," it is said to be found commonly all the year round, but during the summer months especially. Our specimen measured 13 feet and weighed nearly 3 cwt.; its flesh was exposed for sale at the Valletta Market, and fetched about 1s. per lb. I procured for the Malta Natural History Museum the upper jaw and upper lobe of the tail-fin, which are quite sufficient for the identification of the species, and will also serve as a record of this rare occurrence in Maltese waters.—G. Despott (Malta).

INSECTA.

Black form of Peppered Moth in London.—I wish to inform you of an occurrence of the black variety of the Peppered Moth (*Pachys betularia*), which was found dead, and brought to me by a friend in July, 1913. I identified it by specimens in the Horniman Museum.—L. J. C. Harding (Clapham, London).

Notes on London Lepidoptera.—In my note on a Butterfly abroad in dull weather in the 'Zoologist' for last month (p. 114) the epithets "large white" should have had capitals, for the insect was undoubtedly the familiar *Pieris brassicæ*. I have seen *P. rapæ*, an even commoner insect, abroad under similar conditions; but in this case the specimen was evidently looking for shelter. I was once surprised at finding a fine specimen of the Small Copper on a hoarding in Great Portland Street, the only occasion on which I have seen this species in London. But more remarkable was the occurrence of a specimen of the Convolvulus Hawk-Moth on a balcony of the house formerly in the occupation of the Zoological Society in Hanover Square, some time in 1903 or soon after. This I boxed, and took up to Primrose Hill, and released it there that evening on going home.—F. Finn.

CRUSTACEA.

Hermit-Crab Capriciously Changing Shell.—What are the conditions, apart from growth, which lead the Common Hermit-Crab (*Eupagurus bernhardus*) to change its shell? Some individuals appear to change capriciously. For example, one captive specimen, of rather less than average size, removed from a Whelk shell (which bore a "Parasitic" Sea-Anemone) to another Whelk shell of about the same size; and in this house it remained for several days. It then returned to the first shell. A few days later it removed to a third Whelk shell. After remaining here for two or three days, it migrated to the first shell, on which the Sea-Anemone still stood. Neither of the two other shells bore Sea-Anemones, and all three were clean, and of about the same size. This behaviour is occasionally, but by no means commonly, to be observed in other individuals of the Hermit-Crab. It seems to have no connection with the presence or absence of a Sea-Anemone; and it is difficult to decide whether it has any connection with the presence or absence of the worm *Nereis fucata*.—H. N. Milligan.

ECHINOIDEA.

Cannibalism in a Sea-Urchin.—In a recent paper in the 'Zoologist' (pp. 81–99) on the feeding habits of the Purple-tipped Sea-Urchin I pointed out (p. 89) that it was probable that a Sea-Urchin ate the spines which fell from other Sea-Urchins, but that a specimen had not yet been detected in the act of eating a spine. The paper had been in print a week when I observed that a large Purple-tipped Sea-Urchin, 42 mm. in diameter (excluding the spines), had seized a smaller specimen, 21 mm. in diameter, in the aquarium. The small one was making efforts to escape, but was followed by the large one. The small one crept into a corner of the tank, whereupon the large one imprisoned it in the corner with spines and tube-feet, and "sat" upon it for several hours until it had sheared off all except a few of the spines and tube-feet of the upper pole of the victim. So completely had this shearing process been carried out that not only was the test laid bare, but the rounded tubercles to which the spines articulate were in many cases scraped away. (I pointed out in my paper that the periostracum and rugosities of mollusc shells were similarly scraped flat.) The few spines left upon the upper surface had been broken off about their middles. The small Sea-Urchin was now rescued from its oppressor; but next morning I found that another Sea-Urchin, 23 mm. in diameter, had taken advantage of the helplessness of the victim to turn it over and scrape away most of the spine and tube-feet of the oral surface, the mouth-membrane being also bitten in several places. No spines could be found on the floor of the tank, and it may therefore be concluded that in both instances these had actually been swallowed. The small Sea-Urchin was now removed for safety to an empty tank; but it had been so badly damaged that it would neither eat nor move, but clung motionless to the vertical face of a rock with its few remaining tube-feet.—H. N. Milligan.

NOTICES OF NEW BOOKS.

The British Freshwater Rhizopoda and Heliozoa. By James Cash and George Herbert Wailes, F.L.S., assisted by John Hopkinson, F.L.S. Vol. III. Rhizopoda, Part III. London: Ray Society. 1915. 12*s.* 6*d.* net.

For this third volume of the Ray Society's monograph of our Freshwater Rhizopoda, which will be completed, we are told, by a fourth, Mr. G. H. Wailes is largely responsible, since the regretted death of the late James Cash left the work unfinished; his descriptions and records of localities have, however, been utilised, his name being appended to the local records, and some drawings by him are reproduced in the very full series of plates which, twenty-four in all, terminate the volume. Most are in black and white, but eight are coloured, and the text is also illustrated by line drawings of details, the degree of magnification being given in both cases. The groups dealt with include the families of *Euglyphina*, *Gromiina*, and *Amphi-*

stomina, of which the last is confessedly artificial, as we are told that, of the two British genera which it contains, *Diplophrys*, "beyond possessing the apertures in the test, has no affinity with the genus *Amphitrema*." It is of interest to find that microscopists are willing to put up with an unnatural classification, as well as the naked-eye systematists who are supposed to be so much less scientific; but we do not blame either for doing so when it is a question of getting out a needed faunal work like the present, since correctness of classification may well wait—so long as we realise our artificial groupings—till we know exactly what animals we have to deal with in every group and every country. The Protozoa dealt with in the present volume have been widely collected by various workers in our islands, Mr. Wailes making his acknowledgments to many providers of material, collected from districts as distant as the Shetlands and Cornwall, Cambridgeshire and Ireland; but, he tells us, much more "remains to be done before we can gain any correct idea of the distribution of the Freshwater Rhizopoda throughout the British Isles," and it is hoped that microscopists will come forward with their local records—to which, we may add, our pages will always be open; we could do with many more short notes. A sketch of the life of James Cash, the chief author of the first two volumes of this work, appropriately opens the present volume; he was not a professional naturalist, but a journalist, employed at first on the 'Warrington Guardian,' and afterwards, from 1867 till his death, at the age of 70, in 1909, on the 'Manchester Guardian.'

The Colchester Oyster Fishery. By Henry Laver, F.S.A. Colchester: Benham & Co. 1916. 2*s*. 6*d*. net.

As Chairman of the Colne Fishery Board, Dr. Laver is an authority on the long-famed Colchester Oysters, and he deals in full detail in this remarkably neat little work, well illustrated with photographs, with the antiquity and position of this Oyster fishery, the methods of working it, and the quality and safety of its products. The value of the Oyster, not only as a choice article of food, but as an invaluable recuperative diet in cases of dyspepsia and weakness, is supported by numerous instances, and in times like the present is particularly worthy of being held in mind. A silver Oyster is kept among the Colchester Corporation regalia, this being used as the standard of the size and form of the Oyster considered the best and most suitable for sale, and this is figured in the book. Other useful illustrations depict the enemies of the Oyster, spat-shells and brood, the measures used, and the actual adult Oysters themselves.

BRITISH
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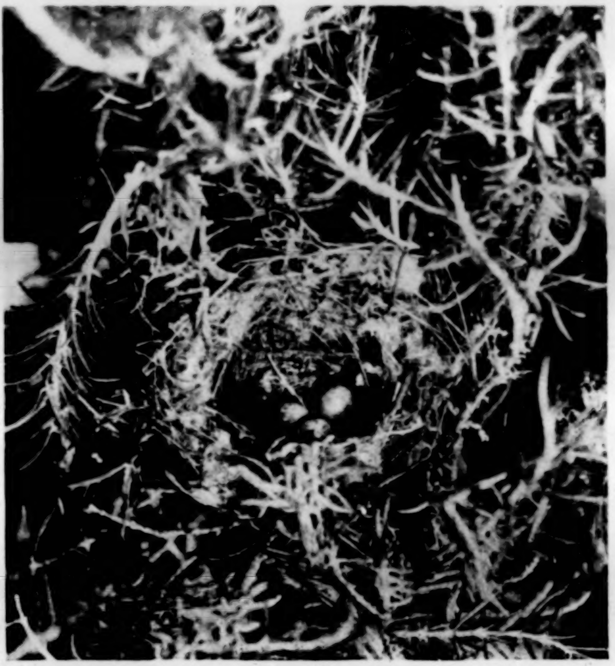
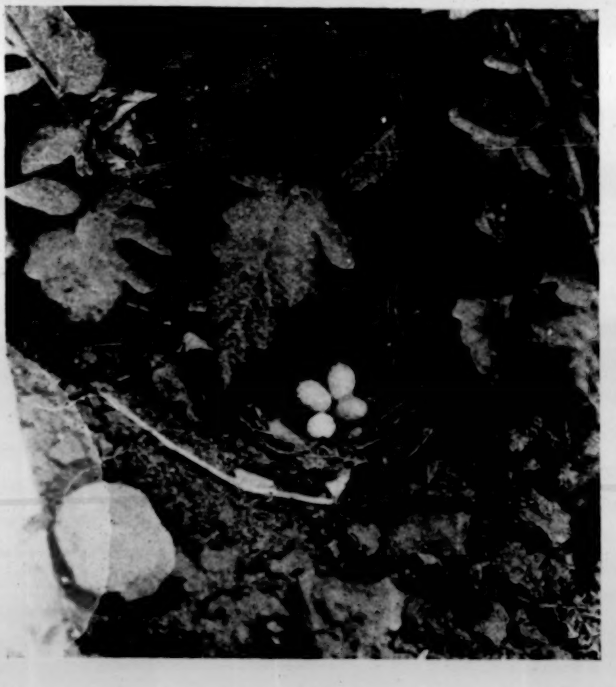


NEST AND EGGS OF SPECTACLED WARBLER.



NEST AND EGGS OF SHORT-TOED LARK UNDER COVER OF TOMATO PLANT.